were estimated. Results of mechanical properties highlight that the injection of papain solution improves meat tenderness accelerating ageing processing. On the contrary, ageing did not affect the WBSF and TPA profile only in EI samples. Lowest collagen content was found in meat treated with papain, while no significant ageing time effect was observed for all meat samples. Papain-treated samples showed an electrophoretic profile characterised by the lowest intensity and number of bands starting from t0 with a complete degradation of all myofibrillar proteins. Particularly, the total disappearance of all intact isoforms of TnT found in EI samples confirms more intense proteolysis in this treatment as also supported by the highest content of TnT-derived polypeptides (32–24 kDa).

Data suggest that the enzymatic treatment could be a promising technique to accelerate conventional ageing of meat determining energy and cost saving, and become very attractive especially for meat that is tougher and requires a long ageing time because of breed, age and type of cut.

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Genomic meat traceability: from breeders to consumers

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In recent years, conventional traceability systems, based on paper documents, have been widely used to verify the origin of local Italian-bred beef. Nowadays, product authenticity regarding species, breed and animal can also be guaranteed by genomic methods.

Our study compared DNA analysis results regarding breed of origin with the label indications from beef samples taken from 4 big Italian retail shops.

The DNA of 24 beef samples were analysed, with the BovineSNP50 BeadChip v2 counting 54,609 SNP markers. The breed of origin was estimated using publicly available SNP data for pure breeds as reference genotypes and using a probability clustering and assignment approach (Plink and ADMIXTURE software) to classify samples. An independent set of data (reference dataset) derived from 199 animal of known origin was used to assign each sample analysed to a breed. The reference dataset is derived from 10 most common breed in Italy. To evaluate assignment performance 100 bootstrapping replicas were performed with CLUMPP software, resulting in 97% similarity among the replicas.

The percentage of origin matched DNA results for 46%, i.e. 11 of the 24 samples analysed. Two types of inconsistencies were observed: 33% of the samples labelled 'pure bred' were identified as 'crossbred' or a different breed by DNA; while 21% labelled 'crossbred' were identified as 'pure bred' by DNA. In the first case, consumers and/or supply chain buyers pay more for products that are worthless. In the second case, beef is sold for less than its worth, with negative consequences for all along the production chains.

These results show how genomic traceability can protect consumers by guaranteeing authentic Italian beef at a fair value for their money. Lastly, everyone in the beef value chain, from producers to retailers, can benefit from a more detailed and scientifically correct evaluation of Italian beef.

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Physical characteristics of eggs from Hy-line Brown layers fed with *Hermetia illucens* larvae meal

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A total of 162, sixteen-week-old hens (average live weight 1.41 kg ±0.13) were divided into three groups: the control was fed a corn-soybean meal-based diet (SBM) covering the hens' requirements according to the Hy-line Brown commercial line management guide (2016). In the diets of the treated groups (HI25 and

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